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Janus, the Roman god who looks forward and backward, may be the perfect patron of archivists.<sup>1</sup> Archivists have one eye to the past, and the profession is commonly associated with history. At the same time, we have an eye to the future, and I believe that is where our focus should be. Although we are committed to preserving the record of what has been, we do so for the future.

As the spirit of doorways and arches, Janus is the perfect model for transitions. When passing through a door, one is simultaneously leaving and entering. As such, he is doubly symbolic for archivists. We are always on the threshold between the past and the future, but we are also currently in the midst of an extended transition between the paper and the digital eras.<sup>2</sup>

The boundary between these two eras is not perfectly distinct, and thus the transition is not instantaneous. Paper will remain a useful technology for the foreseeable future. Personally, I find it almost impossible to write using pen and paper; it's too slow. I find it easier to revise, reorganize, and rewrite on a PC. Still, I sometimes resort to paper precisely because it slows me down and forces me to think more carefully. Most of my audio recordings are compact discs, but I still cling to a few vinyl LPs that have not been re-released. I have yet to send an instant message, and I'm of an age at which it seems a lot easier to just call my friends and actually talk to them.

Even though I've been working with computers since 1968, I'm only part way through this transition to the digital era. The same is true of society as a whole. Records continue to be created and kept in paper formats. If we've learned anything from past technological revolutions, old technologies never entirely die. In *The Myth of the Paperless Office*,<sup>3</sup> Sellen and Harper identified many things paper does much better than a digital counterpart, and there is no reason to expect people to adopt an inferior technology *just* because it's new.

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<sup>1</sup> In fact, the International Council of Archives uses an image of Janus for its logo.

<sup>2</sup> In the interest of brevity, I will use the word 'paper' to encompass film, tape, wire, and a host of other media, as well as textual, graphic, audio, and other formats.

<sup>3</sup> Abigail J. Sellen and Richard H. R. Harper (MIT Press, 2002).

Some archivists take comfort in the persistence of paper. Although I've heard it less often in recent years, I'm sure all of you have heard colleagues express the sentiment that they'll stick with paper to avoid learning about electronic records. I'll guess that some variation of that idea crosses the minds of the vast majority of archivists as they begin to contemplate what it will take to address the challenge of digital records. I hesitated at the digital doorway in spite of my familiarity with computers precisely because I knew about the difficult problems. Taking comfort in denial or avoidance may be understandable, but that attitude is not going to take us over the threshold.

Archivists are not the only professionals facing this challenge. Libraries are also grappling with technology. So are records managers. But other, more disparate professions are also struggling to cope with radical change. Lawyers and the courts are exploring the implications of discovery and authenticity of digital documents. Geographers and cartographers can be literally at a loss when data in geographic information systems cannot be migrated. Architects and engineers have had to learn computer-aided design. Moreover, we face this challenge in our personal lives as digital cameras and video, computers, PDAs, iPods and other technologies capture our memories in digital formats.

Although we can see through the digital doorway, we can't see far. Each door to the future is followed by a seemingly infinite number of doors, choices to make and choices imposed on us. Not too long ago, planning documents looked out three to five years. Today, technology is changing so rapidly that we're lucky to be able to project eighteen months with any accuracy.

Nevertheless, we know something about the digital era because we already have one foot through that door. Computers are becoming commodities; we'll use handhelds that are as cheap and commonplace as legal pads to access and work with our data across a pervasive network. Today, the Web is a realization of Vannevar Bush's memex, and we'll have access to even more information in the future. Wikis, Amazon, and Google show us how people can work asynchronously and collectively to build useful resources, and we'll see more and more online collaboration tools. And particularly important to archivists, we'll see changes in public expectations for access to information. We already see naïve notions that "if it's not on the Web, it doesn't exist," an attitude fully realized in the movie *Star Wars: Episode II – Attack of the Clones*.<sup>4</sup>

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<sup>4</sup> "As the world did not appear in the Archive records, [archivist Jocasta Nu] instantly concluded that the planet did not exist. So reliant was she on the Jedi Archive's data, she neglected to consider that perhaps the information could have been tampered with." From *Star Wars Databank* entry "Nu, Jocasta" (online at <http://www.starwars.com/databank/character/jocastanu/>, checked 5 November 2006).

What might archives look like in this digital future? Although we can't predict the future accurately, we can consider a variety of futures and develop contingency plans. Considering a variety of scenarios is a useful exercise. The simplest approach considers three scenarios: things stay the same, things get bad, and things get better. I would like to offer some of my own thoughts on those scenarios with the caveat that Council has not gone through this exercise and all opinions are my own.

### *Status Quo*

The status quote is the scenario that may be easiest to address. I'll dismiss this scenario because it's not realistic. Consider the records created today that you will want to acquire for your archives. Familiar formats are being digitally transformed. Correspondence is email. Diaries are now blogs. Typescripts are word processing files. Reports are web pages. The advent of technology has fundamentally changed the nature of records and recordkeeping.

Frequently people have tried to reframe the problem. Often this approach offers some insightful and elegant solutions. However, if it is nothing more than spin, the problem will persist. For example, some records professionals try to narrow the scope of the problem by redefining what they consider to be a record. This approach simplifies the problem by reducing the number of records to manage. Unfortunately, it has the unfortunate result that some interesting, valuable materials may be lost. More practically, they can't oblige others to use their definition. In many contexts, and especially in litigation, the only definition of 'record' that matters is the one in the statutes.

### *Worst-Case Scenario*

Maybe the status quo *is* the worst-case scenario. Some archivists are working hard to address the issues of digital records. Although I have often spoken of "*new* skills for a digital era," those skills are not new to a few archivists have been working with digital materials for decades. The problem is that the skills are new to many in the profession.

In this bleak scenario, the archival profession fails to adapt to the digital era. Not enough archivists master the new skills. We linger before the door so long that it closes or others pass through before us and take our place. Archivists are relegated to collections of paper materials, and as more and more records are in digital format, we're largely forgotten. People looking for records don't ask for an archivist, but for someone else. I would argue that this possibility is very real. I have observed that when someone approaches an organization about records, they are often directed to an

individual buried under middle management. But if they ask about electronic records, they're directed to the office of the CIO in upper management.

In a dark view of the future, records of enduring value are lost and poorly organized. Often people cannot find the records they need, and if they do, those records are hard to use, understand, or trust. We will have lost our social memory. I believe that society entrusts archivists with preserving the cultural record and our documentary heritage. If we fail to adapt to the digital era, we will necessarily fail that mandate.

### *Best-Case Scenario*

I do not want to come across like a pessimist while talking about this worst-case scenario. While we are not condemned to this bleak future, neither are we assured a best-case scenario.

In a brighter vision of the future, society has a rich cultural record and documentary heritage because archivists have mastered the skills to thrive in the digital era. We will have passed through a variety of doors and solved the problems of selecting, acquiring, and preserving the fragile digital records that hold society's memories. These records are well organized and easy to use. We will have found a way to harness technology to do our jobs better. People use archives frequently, in part because they find it so easy to get the information they need. As important, they trust us because we offer them valuable assistance.

In this best case scenario, no one ever asks, "What is an archivist?" because we are an integral part of people's lives. Records are more than a commodity. Archives are more than a place. Records are reliable, authentic memory that are always present in people's lives. Archives are the focus of a dynamic community, connecting people to each other, to their past, and to their future.

Is this fantasy? Beth Yakel, Polly Reynolds, and the next generation finding aid team at the University of Michigan have used a content management engine to transform an online collection. Patrons can add comments to the finding aid and ask the archivist questions. But they've gone a step further, with the finding aid actively suggesting relevant content based on searches, much like Amazon suggests books. The collection shows potential for creating community when one patron began answering another patron's questions and suggesting other sources.<sup>5</sup>

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<sup>5</sup> "The Next Generation Finding Aid: The Polar Bear Expedition Digital Collections." Case study presented at the New Skills for a Digital Era colloquium, 1 June 2006. Online at [http://rpm.lib.az.us/newskills/CaseStudies/8\\_Yakel\\_Reynolds.pdf](http://rpm.lib.az.us/newskills/CaseStudies/8_Yakel_Reynolds.pdf) [checked 25 July 2006].

### *Creating Our Own Scenario*

No doubt, the reality of the future will look different from these scenarios. The future holds a variety of outcomes for archivists and their archives. Some may find themselves in the worst case, some in the best case, and most somewhere in between.

Ultimately, these scenarios are fantasy. William Faulkner said, “The past is never dead. It’s not even past.”<sup>6</sup> We can make our own destiny. If we want to realize the best case scenario, we will have to make choices and take responsibility for our future. We cannot be passive.

### *Becoming Comfortable with Digits – New Skills*

To succeed, we should begin by getting a rich understanding of digital records that matches our knowledge of paper records (and to reiterate my aside, all “traditional” records media and formats). Few archivists – few people – recognize that pen and paper are technologies. Because they have been surrounded by paper their entire lives and learned about it by interacting with documents innumerable times, they are unaware of the depth of this tacit knowledge. By contrast, few people are as familiar with digital technology as they are with paper. The new, digital world is virtual, not tangible. In some case, the laws of physics no longer apply; in games we can fly, we have the power of magic, and we can command armies. I’m not sure how flying might help us with digital archives, but magic and commanding armies could really help with backlogs.

In all seriousness, we have to appreciate that the fundamental nature of records has changed in the digital environment. Fortunately, much work has been done here. Pioneers have helped map the lay of the land. Luciana Duranti mapped diplomatics onto electronic records, and the intersection of medieval and contemporary records threw many of the qualities of virtual records and recordkeeping into relief. David Levy’s reflections on the future of the document in the digital era offer profound insights into how people use – and will continue to use – records.<sup>7</sup> But we need to translate that theoretical, academic knowledge to practical knowledge that can be applied in specific instances.

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<sup>6</sup> *Requiem for a Nun* (1951). A note of appreciation for the staff of the Phoenix Public Library for helping me locate this quote.

<sup>7</sup> *Scrolling Forward: Making Sense of Documents in the Digital Age* (Arcade, 2001).

In addition to this theoretical and applied knowledge, archivists should become as comfortable working with digital records as they are working with traditional media. Instead of pen and paper, we will work with cursor and keyboard. Instead of sorters, we will work with sorting algorithms. Rather than weeding, we will filter. With few exceptions, all archivists will need what we now call technical skills as the vast majority of contemporary and future records are and will be digital. Different archivists will need different technical skills, and no archivist is likely to need all skills. But all will need some skills. Work with electronic records will not be a job for specialists as the majority of records will be digital. No doubt, some archivists will continue to specialize, but their specializations will be specific to the digital arena: databases, image and audio formats, and metadata, but also user interfaces, search systems, and digital preservation.

### *Soft Skills*

In addition to technical skills, archivists will continue to need the skills to work effectively with people. In many ways, these “soft” skills are not new. We have always needed to be able to negotiate, to communicate, to manage change, and to market our products and services. We will continue to use these skills with patrons, donors, administrators, staff, the media, and others. In the digital era, we must learn how to work with a pantheon of technologists, including network administrators, web masters, programmers, database administrators, and more.

In particular, I think we should put more emphasis on strategic thinking. What we need is a big-picture view.

In 1878, the head of Western Union declined to buy Alexander Graham Bell’s patents for the telephone, and by 1910 AT&T had acquired a controlling interest in Western Union.<sup>8</sup> Today we live in an Amazoogole world, where people expect comprehensive information, accessible 24 × 7, offering immediate gratification, and customized to the consumer.<sup>9</sup> How should we respond so that we are remembered with the likes of Bell, rather than Western Union?

Wouldn’t you like to know what role archives will play in the digital era? Looking at trends, identifying key forces, and developing scenarios will help us understand how others see us and how we can meet changing need. However, Alane Wilson, who helped write OCLC’s environmental scan, noted that libraries – and I suspect archives –

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<sup>8</sup> Alane Wilson, “Scanning for Planning.” Presented at Computers in Libraries (Washington DC, 2006).

<sup>9</sup> Coined by Lorcan Dempsey, OCLC Vice President of Research.

pay less attention to these external factors, and concentrate more on internal statements of vision, mission, and goals.<sup>10</sup> Unless we pay attention to external factors, we may be planning for the wrong future, the wrong door.

Michael Stephens says librarians must sharpen their skills to respond to Web 2.0. He suggests a number of skills that I believe are essential to archivists in the digital era. We need trend spotters, who watch the horizon for any changes in the environment – often outside the world of archives – that could impact what we do and where we need to go. We need embracers, who find creative, practical uses for new technologies. We need planners and evaluators to ensure that technology meets our patrons' needs and is used appropriately.<sup>11</sup>

We may want to put as much emphasis on environmental scans, trend spotting, and future studies as we do on history. As I said earlier, archivists have an eye to the past and to the future, and I believe our focus belongs primarily on the future. We cannot predict the future, but we can influence it and confront it in more informed ways.

### *Becoming Comfortable in the Digital Work – Attitudes*

We need more than knowledge and skills to thrive in the digital world. We need new attitudes. A new frontier lies on the other side of the digital doorway, and it's not for the faint of heart. We need archivists who are early adopters; people who are excited, rather than intimidated, by new technology and innovations. We need risk takers; archivists who are willing to try something new and who, when confronted with failure, keep trying something over and over until they master it. We need problem solvers.

We need creativity. What could be better than living during a time of great potential? Opportunities abound for innovation in every aspect of our profession. Boxes won't help us get e-records across the archival threshold; we need new ways to transfer records. Acquisitions won't be infested with vermin, but there may be nasty viruses. Patrons may see little value in finding aids in an age of full-text searches. Digital technology creates enormous potential benefits to the profession and to our patrons. It offers us new ways to work more effectively and efficiently. To do that, we need to find new ways to do our jobs.

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<sup>10</sup> Wilson, *ibid.*

<sup>11</sup> Michael Stephens, "Into a New World of Librarianship." Part of the article "Web 2.0: Where will it take Libraries." *NextSpace 2* (2006), p. 8. Available online at <http://www.oclc.org/nextspace/002/1.htm> [checked 24 July 2006].

We need the initiative and drive – possibly impetuosity – to dive in and begin working with digital materials. We're entering risky territory, leaving the comfortable behind. We cannot wait until we have everything figured out. I didn't want to start working with electronic records because I knew there was a real chance of failure. I am enormously grateful to my friend Fynnette Eaton, who counseled me early on: Whatever we do, we may fail; but if we do nothing, failure is guaranteed.

We may need a dose of reality now and again. Capturing snapshots from a geographic information system is not as desirable as preserving the entire system, but it's better than nothing. Capturing a PDF of a spreadsheet means that underlying formulas are lost, but it's better than nothing. Good enough is by no means our ultimate goal. We must constantly strive to do better. We need archivists who will focus on what we can do. Let us celebrate the reality of what we can accomplish, rather than bemoan the dream we did not fully realize.

As much as anything, we need patience and optimism to sustain us when the going gets rough. I encourage you to turn to your colleagues and friends in the profession. They may be the greatest source of these precious virtues when you feel overwhelmed and you find your reserves running low.

### *The Face of Archival Identity*

I believe that the transition into the digital era will have a significant impact on the face of the profession. Many representations of Janus show one face without a beard, the other face with. He has changed; he has aged. But fundamentally, he is the same person. I believe that, like Janus, the digital archivist will look different, but will be fundamentally the same.

Archivists are doing more and more with technology, as technologists are working more and more with records. As we adapt the archival skill set to the digital era and as other disciplines address the challenge of e-records, the boundaries between the professions will blur. With all respect, is our guest Brewster Kahle, the head of the Internet Archive, an archivist or a technologist?

We do ourselves a disservice when we try to answer this question in absolute terms. I have advocated for an inclusive definition of archivists, especially within the Society of American Archivists. We should welcome those who share and support our core principles and goals.

- Archivists select and keep records that have enduring value as reliable memories of the past.



- We organize our collections so that the information in the records can be found and interpreted in proper context.
- We help people use and understand those records.
- We protect records from degradation, ensuring that they remain accessible over time.
- Archivists know that “what is past is prologue,” that history informs and influences the future.
- We understand the importance of authenticity and trustworthiness.
- We are driven by knowledge that records play a key role in holding people and organizations accountable.

Even as the world around us changes, these principles and goals define our profession and remain unchanged.

### *Through the Digital Looking Glass and What Janus Found There*

Embracing the new does not mean discarding the old wholesale. During the past year, I spoke with many people about my idea that *how* we do our job changes, but *what* we do remains the same. After many conversations about what we do and how we do it, I believe this idea is fundamentally correct. Catherine Stollar and Thomas Kiehne expressed it more eloquently when they say “*why* we do it will not change,”<sup>12</sup> stressing motivation rather than activity. Much of archival knowledge transfers directly to the digital era, and established principles give us insight into solutions.

Alien territory lies beyond the digital doorway. Each day we make choices. We are confronted with many small doors every day, and we have the opportunity to decide whether to pass through them. Many days, we choose the familiar and routine. Some days we may choose the default because we failed to see options or because we are exhausted by the pace of change. If we are to make progress, we must pass through those doors and learn about this new world. That means more than learning about information technology. It also means learning about the changed legal, business, economic, cultural, scientific, political, and social contexts of the digital era.

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<sup>12</sup> “Guarding the Guards: Archiving the Electronic Records of Hypertext Author Michael Joyce.” Case study presented at the New Skills for a Digital Era colloquium, 31 May – 2 June 2006, National Archives and Records Administration (Washington, DC). Available online at [http://rpm.lib.az.us/NewSkills/CaseStudies/4\\_Stollar\\_Kiehne.pdf](http://rpm.lib.az.us/NewSkills/CaseStudies/4_Stollar_Kiehne.pdf) (checked 17 July 2006).

Feeling overwhelmed? The challenge *is* daunting. Even so, we cannot be intimidated. I encourage you by reminding you of the adage that a journey of a thousand miles begins with a single step. We don't have to have everything figured out and planned before we start. The essence of strategic thinking is about direction, not about steps. We have a vision of where to go, and we figure out the path as we go along.

Many may feel paralyzed because they don't know what to do. The key is: We cannot let the perfect be the enemy of the possible. Ask yourself, What can I do today? No matter how small, do something. It may be as simple as accessioning a disk with word processing files. You may not know how you will keep those files accessible into the future, but at least you have them and you have a chance of preserving them. Create a finding aid for the files on that disk. It may not be full text access, but you will have some means of letting your patrons know about the materials. Put a finding aid online so that the world knows about the collection. Start developing a plan to migrate that data and keep it alive. The more you do, the more you know. The more you know, the more you can do.

I strongly encourage you to learn some basic, applied technical knowledge. Not so that you can build a website or design a database, but so that you'll have a better understanding of the digital environment. I also encourage you to hone some of those "soft" skills. Find your strengths; you may be an embracer or a trend spotter.

Remember Eaton's words: Whatever we do, we may fail; but if we do nothing, failure is guaranteed. I offer this insight as encouragement. My sense is that many archivists fear failure. Eaton gave me permission to fail and gave me comfort when I did fail. But more importantly, they gave me the courage and initiative to do *something*, and without that, I would still be standing on the wrong side of the digital doorway.

Ultimately, to thrive in this world, to realize the best case scenario, we need the spirit and attitudes of pioneers. We need the courage and – maybe more important – the *desire* to step outside our comfort zones. We need the willingness to leave what is comfortable and familiar and to pass through the doorway to the unknown. If we learn to be comfortable taking risks, we can take a leading role on the digital frontier. We can be pioneers – first through the door, scoping the terrain, and figuring out what to do next. And if we are on the leading edge, we will be better positioned to fulfill our social mandate of preserving the cultural record.

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